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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/755,745	01/12/2004	Jasper Wong	D/A3605	9585
7590 06/15/2006			EXAMINER	
Patent Documentation Center Xerox Corporation Xerox Sq. 20th Floor 100 Clinton Avenue South Rochester, NY 14644			MARTINEZ, CARLOS A	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/755,745

Applicant(s)

WONG ET AL.

Examiner

Carlos A. Martinez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 18-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

The replacement drawings and annotated sheets were received on 05/25/2006. It is noted that these drawings are acceptable.

Specification

The specification corrections were received on 05/25/2006. It is noted that these corrections are acceptable.

Election/Restrictions

Claims 18-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 11/16/2005.

This application contains claims 18-21 drawn to an invention nonelected with traverse in Paper No. 20051116. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crawford (US5861903) in view of Jones (US2003/0202077 A1) and Arai (US6339484 B1).

- Crawford discloses all the features of the instantly claimed invention: solid ink feed system for a phase change printer (refer to Fig.1 and Fig. 2) with a longitudinal feed channel (refer to element 25A-D of Fig. 4 and col. 5, line 45-47).
- Though Crawford, also, teaches a friction reducing material in the longitudinal feed channels (refer to element 28) for contact with the ink sticks (refer to column 4, lines 40-43; also lines 59-67 of column 5 and lines 1-5 of column 6). Crawford fails to teach a longitudinal guide rail in the feed channel and a non-marking material on at least a portion of the surface of the longitudinal guide rail as recited in the instant claims.
- Jones teaches a longitudinal guide rail in the feed channel, which acts as a guide for solid ink sticks, without a non-marking/low surface energy material. Note paragraph 0005, lines 6 to 12 in Jones.
- It would have been obvious to one having skill in the art at the time the invention was made to combine/modify the device of Crawford to include a longitudinal guide rail, along with a friction reducing material for contact with the ink sticks, in the longitudinal feed channel as taught by Jones for the purpose of providing smooth movement and minimized contact between the solid ink material and feed channel.
- Arai teaches a friction reducing material that is a non-marking material (refer to column 11, lines 14 – 43), which is used, in a guiding system (refer to column 6, lines 22 – 29).

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- It would have been obvious to one having skill in the art at the time the invention was made to modify the longitudinal feed channel of Crawford, as modified by Jones, with a friction reducing material that is a non-marking material which is used in a guiding system as taught by Arai, for the purpose of providing a smooth and non-adhering guiding means for solid ink sticks.

Further, with respect to claim 2, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, with a non-marking material that has a surface energy of less than approximately 30 dynes/cm such as FEP or PTFE (which applicant recognizes as having a surface energy less than 30 dynes/cm), as further taught by Arai (refer to column 11, lines 36 – 42), for the purpose of providing a surface energy that would make for a non-marking surface against solid ink sticks.

Further, with respect to claim 3, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, with a non-marking material from the group consisting of tetrafluoroethylene fluorocarbon polymers and fluorinated ethylene-propylene resins, as further taught by Arai (refer to column 11, lines 36 – 42), for the purpose of providing a surface energy that would make for a non-marking surface against solid ink sticks.

Further, with respect to claim 4, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, with a

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surface formed of the non-marking material comprising a coating of a non-marking material, as further taught by Arai (refer to column 12, lines 41 – 46), for the purpose of providing a desired layering of non-marking material.

Further, with respect to claim 5, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, and as applied to claim 4, with a surface formed of a non-marking material that comprises a film tape of polytetrafluoroethylene, as further taught by Arai (refer to column 12, lines 29 – 31), for the purpose of providing a smooth and non-marking surface through a readily available film tape.

Further, with respect to claim 6, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, and as applied to claims 4 and 5 above, with a film tape that has a compressible backing, as further taught by Arai (refer to column 12, lines 18 – 31), for the purpose of providing a smooth and non-marking surface – that is also yielding to the movement of the solid ink stick – through a readily available film tape.

Further, with respect to claim 7, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, and as applied to claims 4 to 6 above, with a compressible backing that comprises an adhesive, as further taught by Arai (refer to column 12, lines 18 – 31), for the purpose of providing the ability

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to easily secure a smooth and non-marking material to a surface through a readily available film tape.

Further, with respect to claim 8, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, with a non-marking material whose surface is smooth, as further taught by Arai (refer to column 4, lines 10 and 11; and column 11, lines 14 – 35), for the purpose of providing easy movement of the solid ink sticks along the guide rail.

Further, with respect to claim 9, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, and as applied to claim 8 above, with a non-marking material whose smooth surface is deformable, as further taught by Arai (refer to element 38 and column 12, lines 55 – 67), for the purpose of providing a yielding surface to easily move the solid ink stick on.

3. Claims 10 – 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crawford (US5861903) in view of Jones (US2003/0202077 A1) and Arai (US6339484 B1).

- Crawford discloses all the features of the instantly claimed invention: solid ink feed system for a phase change printer (refer to Fig.1 and Fig. 2) with a longitudinal feed channel (refer to element 25A-D of Fig. 4 and col. 5, line 45-47).
- Though Crawford, also, teaches a friction reducing material in the longitudinal feed channels (refer to element 28) for contact with the ink sticks (refer to column 4, lines 40-

43). Crawford fails to teach a first longitudinal feed channel guide rail, a non-marking material formed on the surface of the first longitudinal feed channel guide rail, and an ink stick having a guide element formed in it – “wherein the shape of the ink stick guide element and the shape of the feed channel guide rail substantially complement one another so that when the ink stick is placed in the solid ink feed system, the ink stick guide element fits with the longitudinal guide rail to form a load-bearing support contact between the feed channel guide rail and the ink stick guide element” – as recited in the instant claims.

- Jones teaches an ink stick (refer to element 30, Fig. 4) having a guide element formed in it (refer to element 66, Fig. 4) – “wherein the shape of the ink stick guide element and the shape of the feed channel guide rail (refer to element 40, Fig. 4) substantially complement one another so that when the ink stick is placed in the solid ink feed system, the ink stick guide element fits with the longitudinal guide rail to form a load-bearing support contact between the feed channel guide rail and the ink stick guide element”.

Jones also teaches a longitudinal guide rail in the feed channel, which acts as a guide for solid ink sticks, without a non-marking/low surface energy material. Note paragraph 0005, lines 6 to 12 in Jones.

- It would have been obvious to one having skill in the art at the time the invention was made to combine/modify the device of Crawford to include a longitudinal guide rail, along with a friction reducing material for contact with the ink sticks, in the longitudinal feed channel as taught by Jones for the purpose of providing smooth movement and minimized contact between the solid ink material and feed channel.

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- Arai teaches a friction reducing material that is a non-marking material (refer to column 11, lines 14 – 43), which is used, in a guiding system (refer to column 6, lines 22 – 29).
- It would have been obvious to one having skill in the art at the time the invention was made to modify the longitudinal feed channel of Crawford, as modified by Jones, with a friction reducing material that is a non-marking material which is used in a guiding system as taught by Arai, for the purpose of providing a smooth and non-adhering guiding means for solid ink sticks.

Further, with respect to claim 11, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, wherein the surface of the first longitudinal feed channel guide rail is smooth, as further taught by Arai (refer to column 4, lines 10 and 11; and column 11, lines 14 – 35), for the purpose of providing easy movement of the solid ink sticks along the guide rail.

Further, with respect to claim 12, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, and as applied to claim 11 above, wherein the smooth surface of the first longitudinal feed channel is deformable, as further taught by Arai (refer to element 38 and column 12, lines 55 – 67), for the purpose of providing a yielding surface to easily move the solid ink stick on.

Further, with respect to claim 13, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, wherein

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the surface – such as formed by FEP or PTFE which ink material does not adhere or build up on, as recognized by the applicant – of the first longitudinal feed channel guide rail does not accumulate material from the ink stick, as further taught by Arai (refer to column 11, lines 36 – 42), for the purpose of providing easy movement of the solid ink sticks along the guide rail without interference from ink accumulation on the surface material.

Further, with respect to claim 14, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, wherein the surface of the first longitudinal feed channel is deformable, as further taught by Arai (refer to element 38 and column 12, lines 55 – 67), for the purpose of providing a yielding surface to easily move the solid ink stick on.

Further, with respect to claim 15, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, wherein the surface of the first longitudinal feed channel guide rail is formed of a material having a low surface energy (such as FEP or PTFE, which applicant recognizes as having a very low surface energy), as further taught by Arai (refer to column 11, lines 36 – 42), for the purpose of providing a surface energy that would make for a low-friction and smooth surface.

Further, with respect to claim 16, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, and as applied to claim 15 above, wherein the surface of the first longitudinal feed channel guide rail is

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formed of a material having a surface energy of less than approximately 30 dynes/cm (such as FEP or PTFE, which applicant recognizes as having a surface energy less than 30 dynes/cm), as further taught by Arai (refer to column 11, lines 36 – 42), for the purpose of providing a surface energy that would be low enough to not adhere material from the solid ink sticks.

4. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crawford (US5861903) in view of Arai (US6339484 B1).

- Crawford discloses an ink melt plate (refer to element 29A-D of Fig. 4 and col. 3, line 56 – 60) and an ink feed channel for moving an ink stick from an insertion point to the melt plate (refer to element 25A-D of Fig. 4 and col. 4, line 44 – 58).

- Though Crawford teaches a friction reducing material in the longitudinal feed channels (refer to element 28) for contact with the ink sticks (refer to column 4, lines 40-43).

Crawford fails to recite a non-marking material that is formed on a surface of the ink feed channel.

- Arai teaches a friction reducing material that is a non-marking material formed on the surface of the ink feed channel (refer to column 11, lines 14 – 61), which is used for guiding purposes (refer to column 6, lines 22 – 29).

- Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the ink feed channel of Crawford, with a friction reducing material that is a non-marking material which is used in a guiding system as taught by Arai, for the purpose of providing a smooth and non-adhering guiding means for solid ink sticks.

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5. Applicant has provided evidence in this file showing that the invention was owned by, or subject to an obligation of assignment to, the same entity as US2003/0202077 at the time this invention was made, or was subject to a joint research agreement at the time this invention was made. However, reference US2003/0202077 additionally qualifies as prior art under another subsection of 35 U.S.C. 102, and therefore, is not disqualified as prior art under 35 U.S.C. 103(c).

Applicant may overcome the applied art either by a showing under 37 CFR 1.132 that the invention disclosed therein was derived from the invention of this application, and is therefore, not the invention "by another," or by antedating the applied art under 37 CFR 1.131.

Response to Arguments

6. Applicant's arguments filed 05/25/2006 have been fully considered but they are not persuasive.

7. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

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With respect to applicant's argument regarding the Arai reference (US6339484), the Office agrees that the reference does not deal specifically with solid ink; however, the use of the Arai reference by the Office is for the purpose of establishing the known limitations presented with respect to a friction reducing material that is a non-marking material (refer to column 11, lines 14 – 43), which is used, in a guiding system (refer to column 6, lines 22 – 29). As such, Arai does indeed provide teaching applicable towards applicants stated claims (note also lines 19-26 of column 3 and lines 10-19 of column 4). Further, those skilled in the art – as noted in applicant's argument – would know that adhesion/marketing/sticking/buildup in a feed channel presents a problem with respect to a solid ink stick, as noted in Crawford (refer to lines 48-54 of column 1; also lines 59-67 of column 5 and lines 1-5 of column 6). As a result of accumulation of solid ink material and movement-restricting adhesion, one skilled in the art would be motivated to minimize contact between the solid ink material and feed channel as noted in Jones with a guide rail, and one skilled in the art would be motivated to utilize known non-marking material that have been utilized in the transporting of objects through a guide system/assembly in order to minimize contact to the surface of the guiding system or the object to be guided in such a system as noted in Arai. The motivation to utilize a non-marking material is in harmony with the friction reducing material presented in Crawford. Thus, it is the stand of the Office that one would be motivated to incorporate a friction reducing material, as taught by Arai, to a feed channel, and it would be obvious to ones skilled in the art to combine the material of Arai with Crawford and Jones.

8. Since the Office still deems the references appropriate and the arguments related to the references as appropriate:

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos A. Martinez whose telephone number is (571) 272-8349. The examiner can normally be reached on 8:30 am - 5:00 pm (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D. MEIER can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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06/01/2006


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